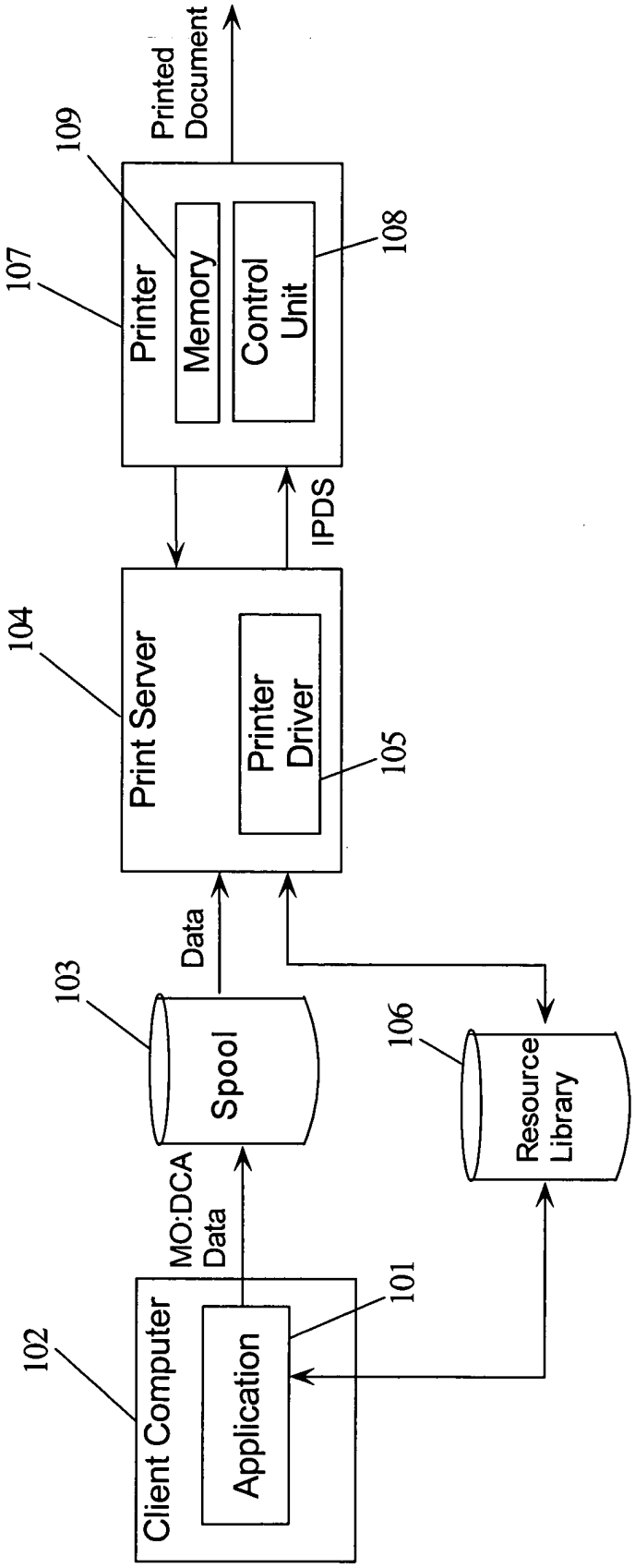
Printed Document
109
Memory
Control Unit
108
107
Printer
IPDS
104
Print Server
Printer Driver
105
Data
103
Spool
106
Resource Library
MO:DCA Data
101
102
Client Computer
Application

Figure 1

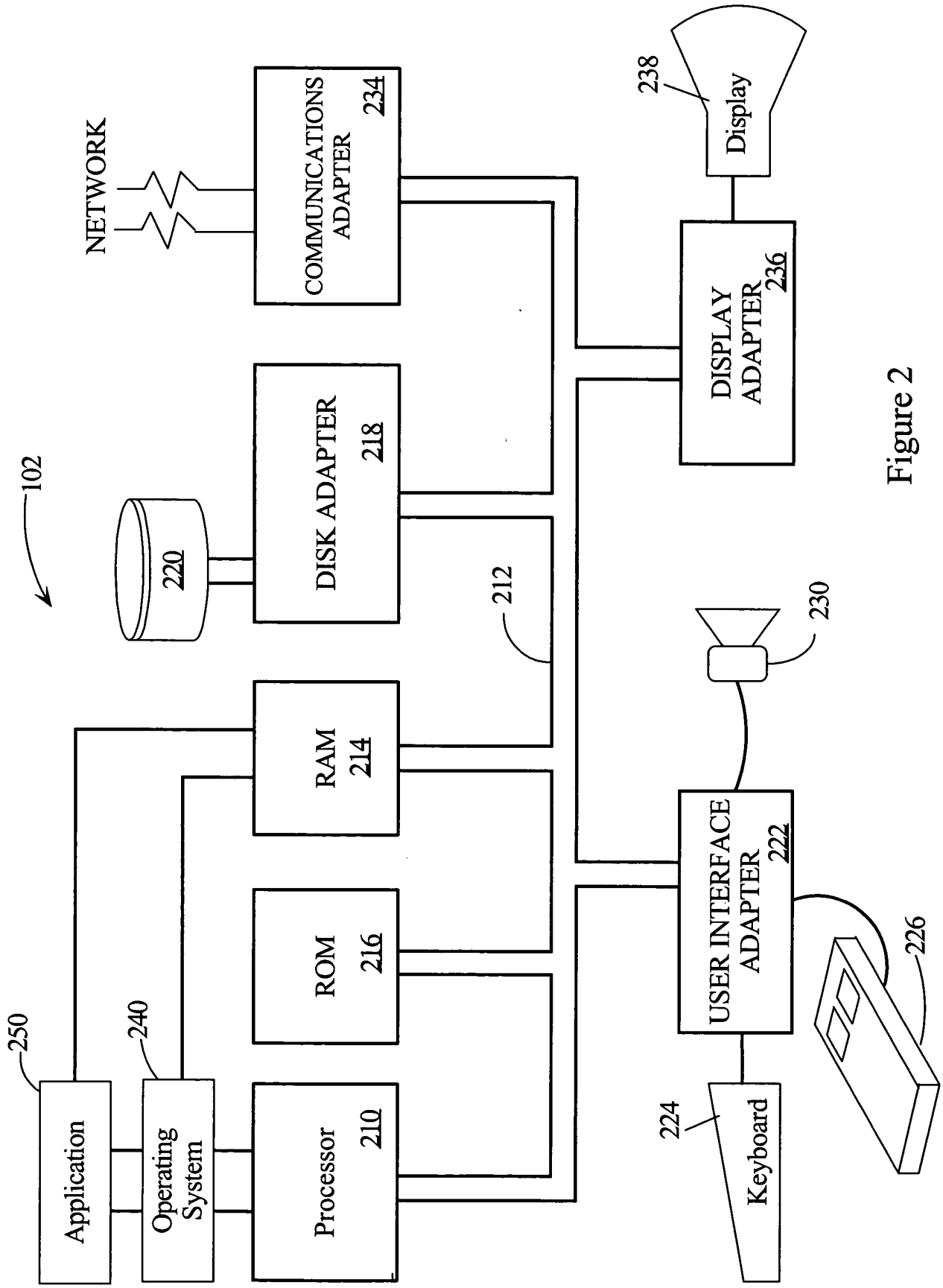
102
NETWORK
COMMUNICATIONS ADAPTER 234
238
Display
DISPLAY ADAPTER 236
220
DISK ADAPTER 218
212
230
RAM 214
ROM 216
USER INTERFACE ADAPTER 222
226
250
240
Application
Operating System
Processor 210
224
Keyboard

Figure 2

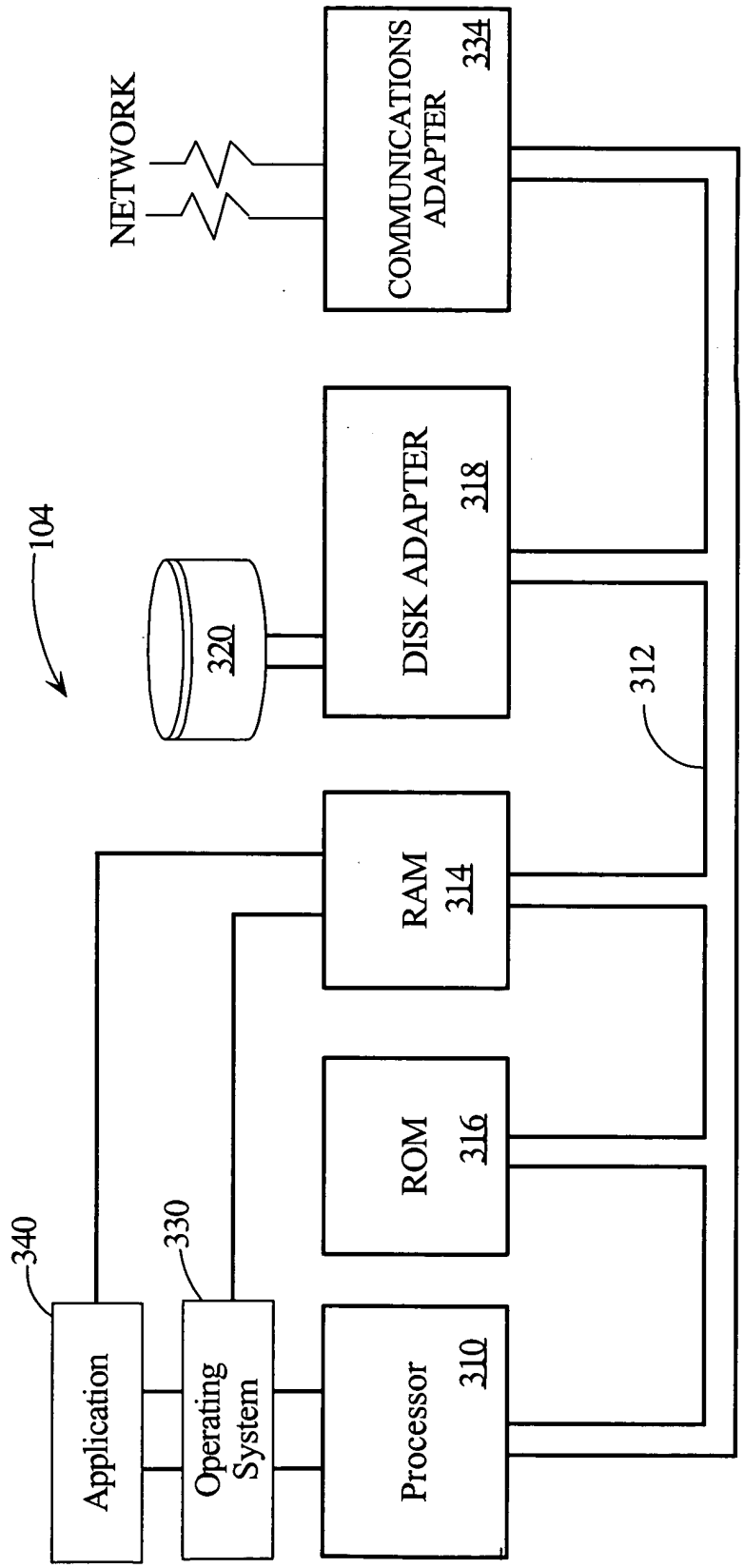
104
NETWORK
COMMUNICATIONS ADAPTER 334
DISK ADAPTER 318
320
312
RAM 314
ROM 316
Processor 310
Operating System
Application
330
340

Figure 3

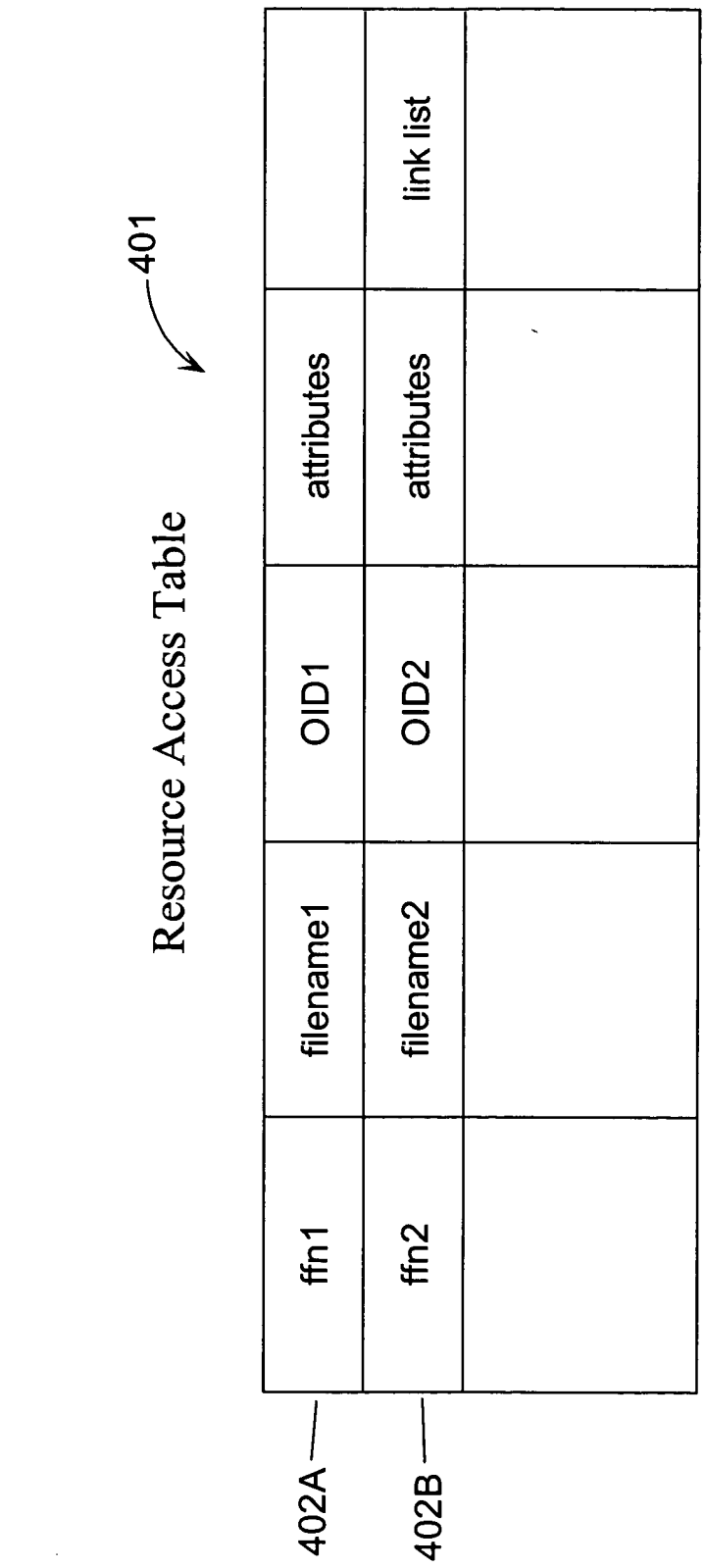
Resource Access Table
401
ffn1
filename1
OID1
attributes
link list
ffn2
filename2
OID2
attributes
402A
402B

Figure 4

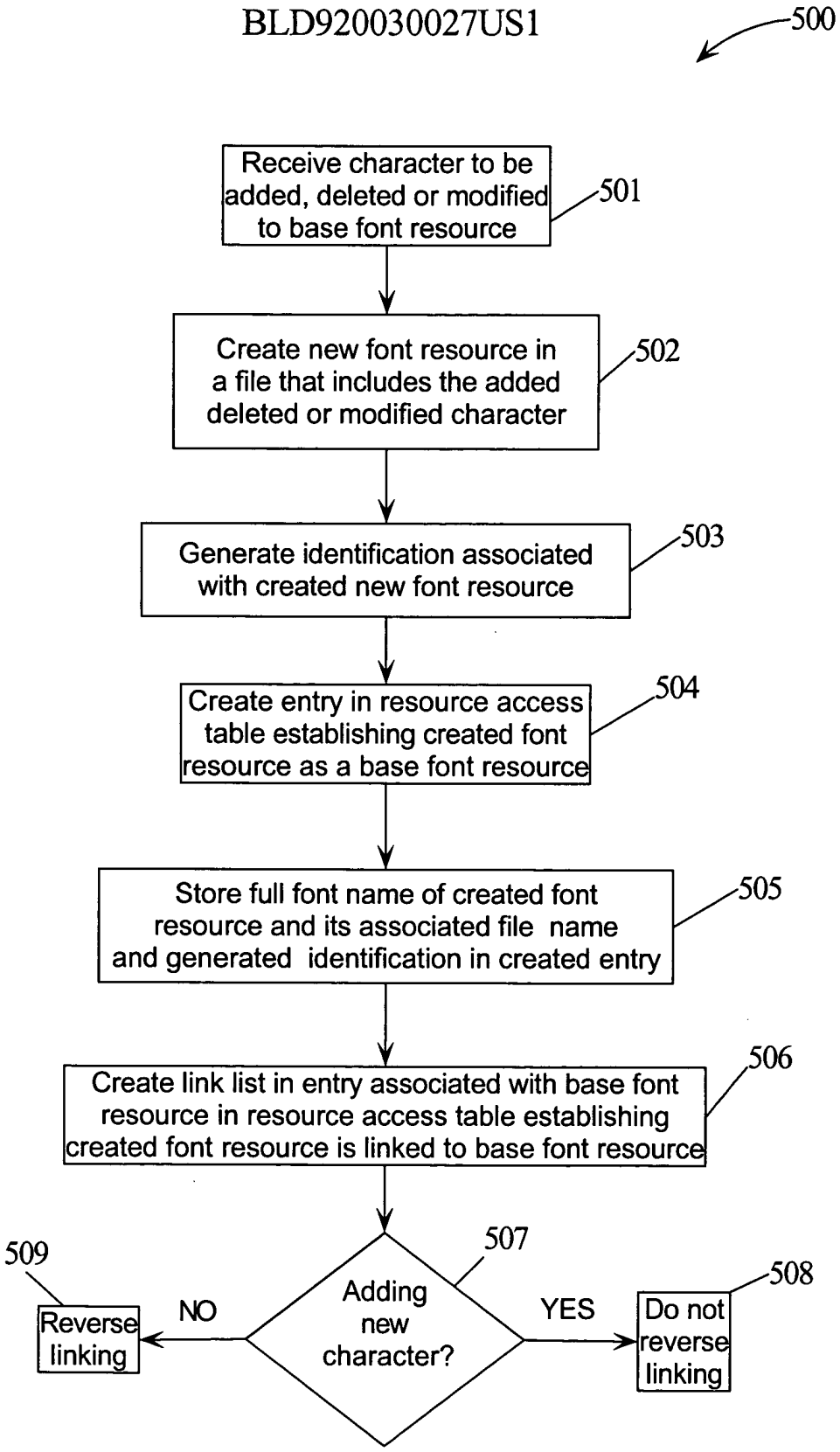
500
Receive character to be added, deleted or modified to base font resource
501
Create new font resource in a file that includes the added deleted or modified character
502
Generate identification associated with created new font resource
503
Create entry in resource access table establishing created font resource as a base font resource
504
Store full font name of created font resource and its associated file name and generated identification in created entry
505
Create link list in entry associated with base font resource in resource access table establishing created font resource is linked to base font resource
506
Adding new character?
507
NO
YES
Reverse linking
509
Do not reverse linking
508

Figure 5

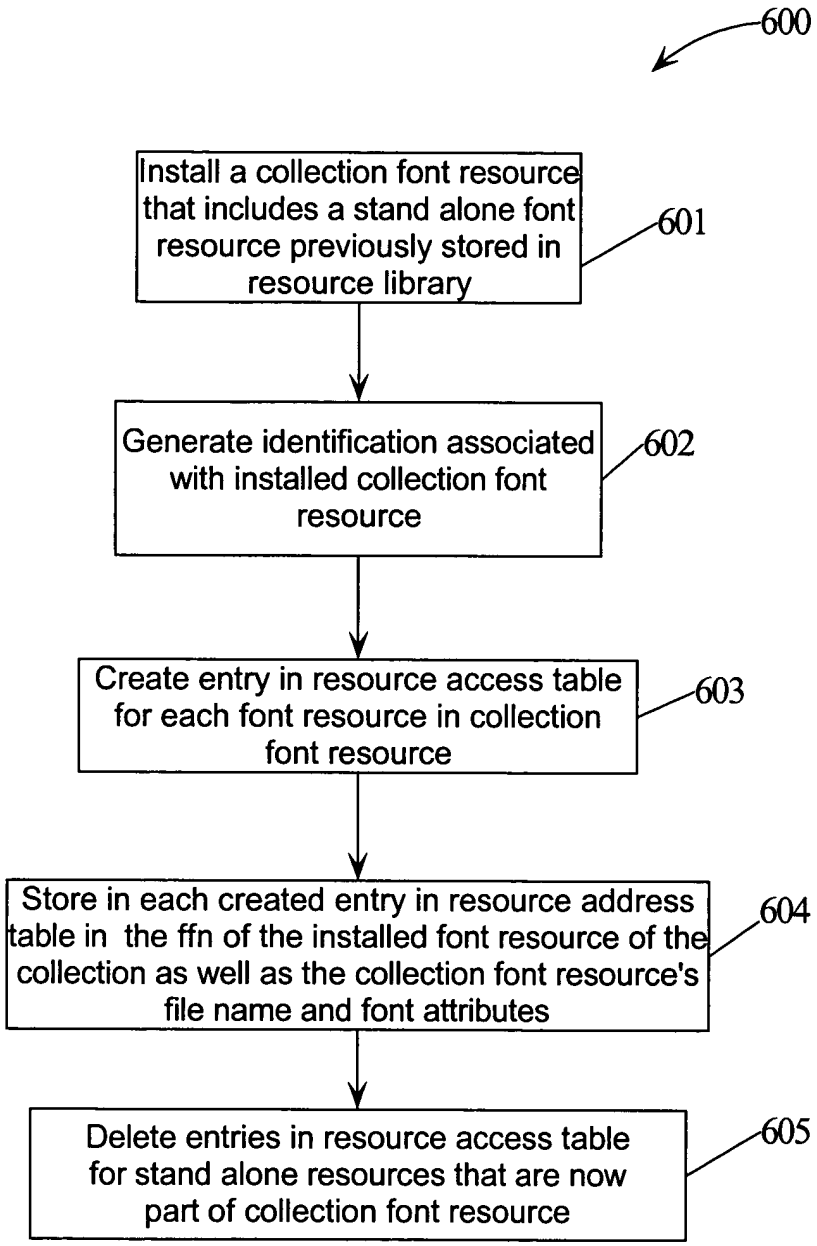
600
Install a collection font resource that includes a stand alone font resource previously stored in resource library
601
Generate identification associated with installed collection font resource
602
Create entry in resource access table for each font resource in collection font resource
603
Store in each created entry in resource address table in the ffn of the installed font resource of the collection as well as the collection font resource's file name and font attributes
604
Delete entries in resource access table for stand alone resources that are now part of collection font resource
605

Figure 6

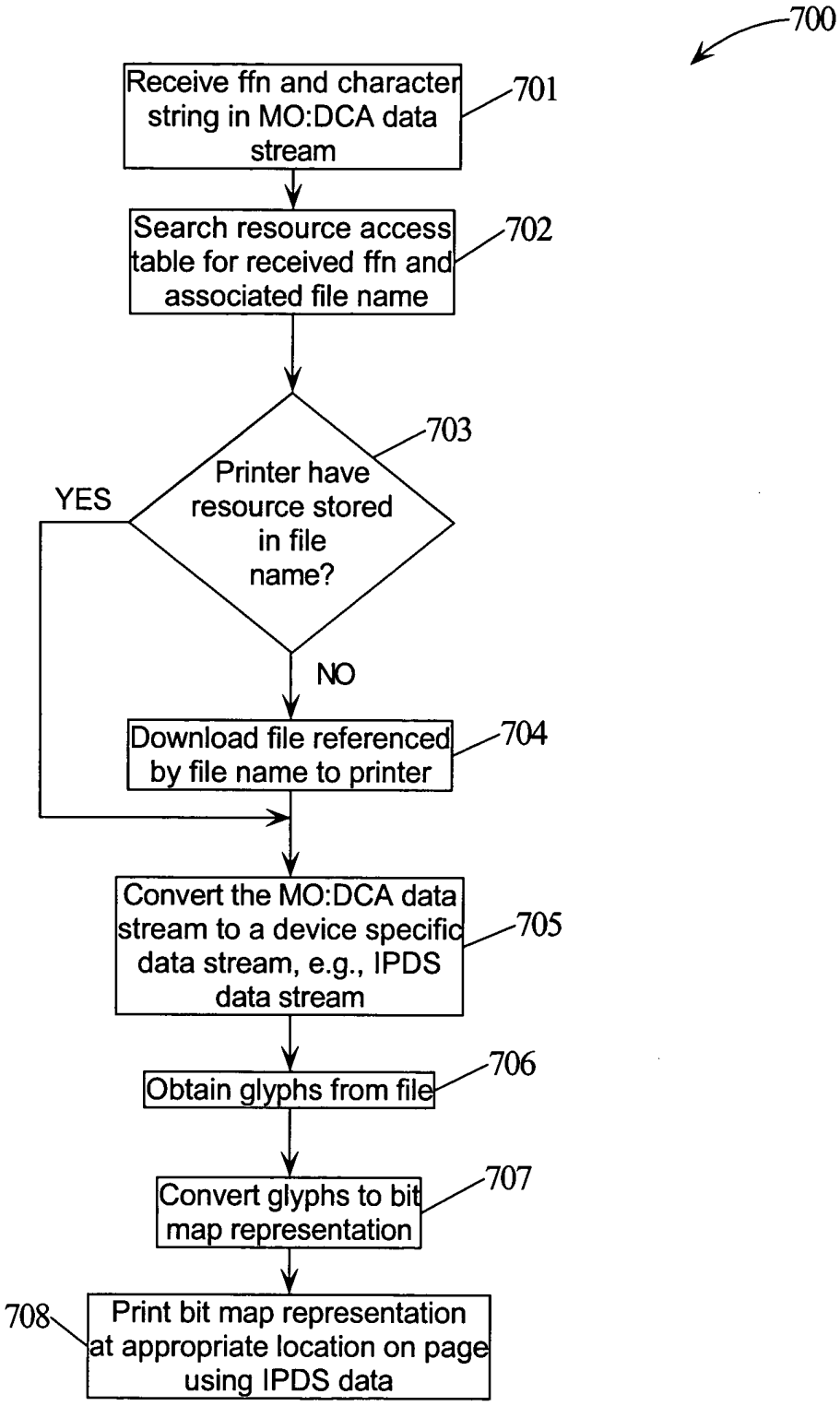
700
Receive ffn and character string in MO:DCA data stream
701
Search resource access table for received ffn and associated file name
702
Printer have resource stored in file name?
703
YES
NO
Download file referenced by file name to printer
704
Convert the MO:DCA data stream to a device specific data stream, e.g., IPDS data stream
705
Obtain glyphs from file
706
Convert glyphs to bit map representation
707
Print bit map representation at appropriate location on page using IPDS data
708

Figure 7

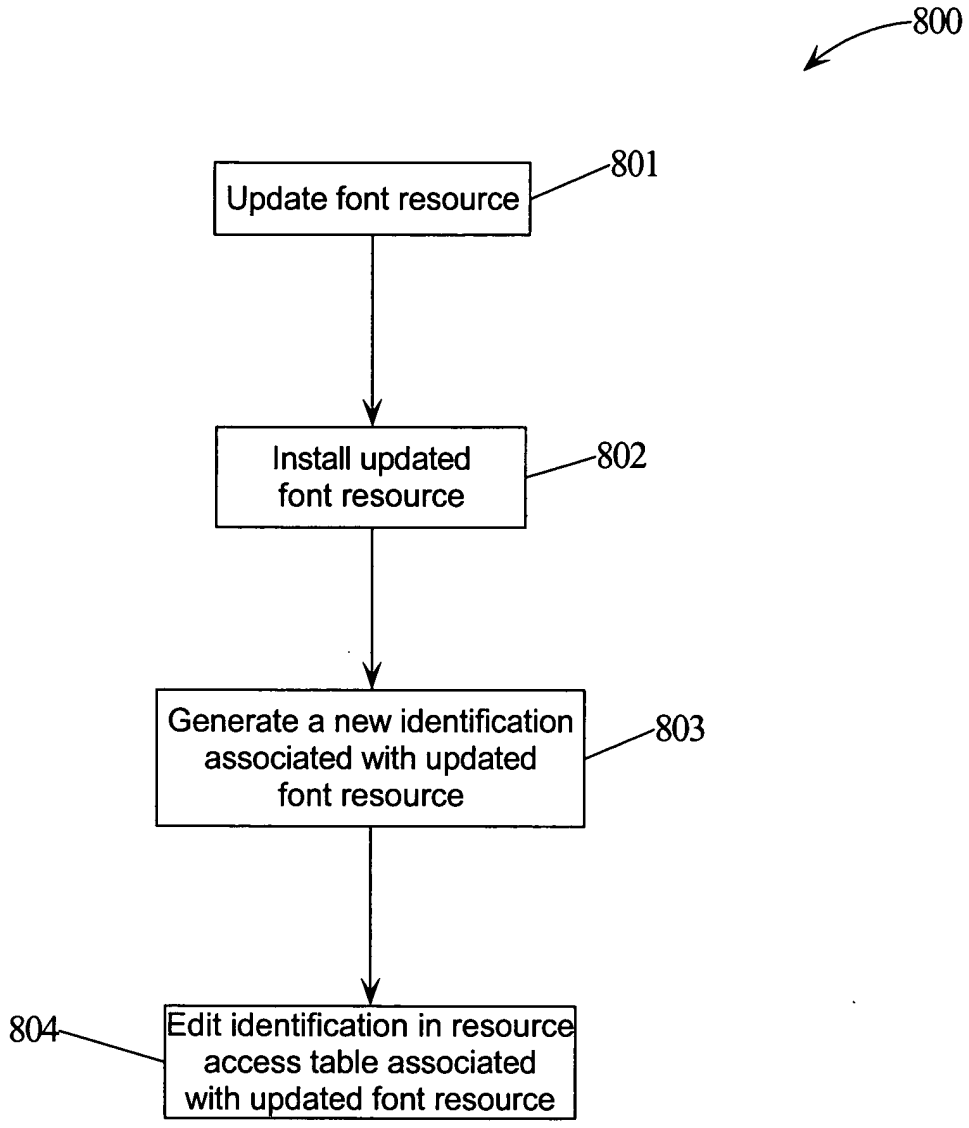
800
Update font resource
801
Install updated font resource
802
Generate a new identification associated with updated font resource
803
804
Edit identification in resource access table associated with updated font resource

Figure 8

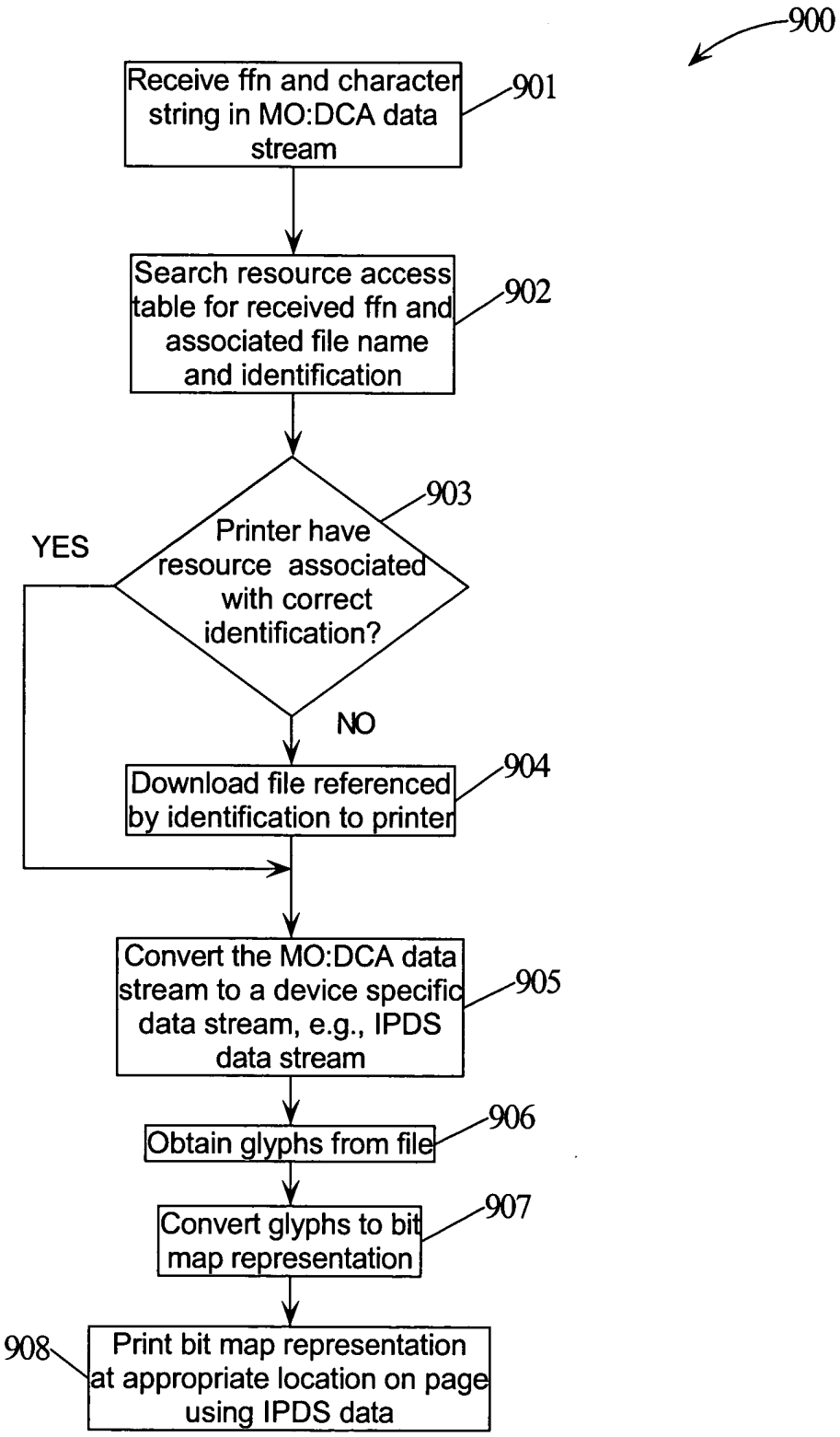
900
Receive ffn and character string in MO:DCA data stream
901
Search resource access table for received ffn and associated file name and identification
902
Printer have resource associated with correct identification?
903
YES
NO
Download file referenced by identification to printer
904
Convert the MO:DCA data stream to a device specific data stream, e.g., IPDS data stream
905
Obtain glyphs from file
906
Convert glyphs to bit map representation
907
Print bit map representation at appropriate location on page using IPDS data
908

Figure 9

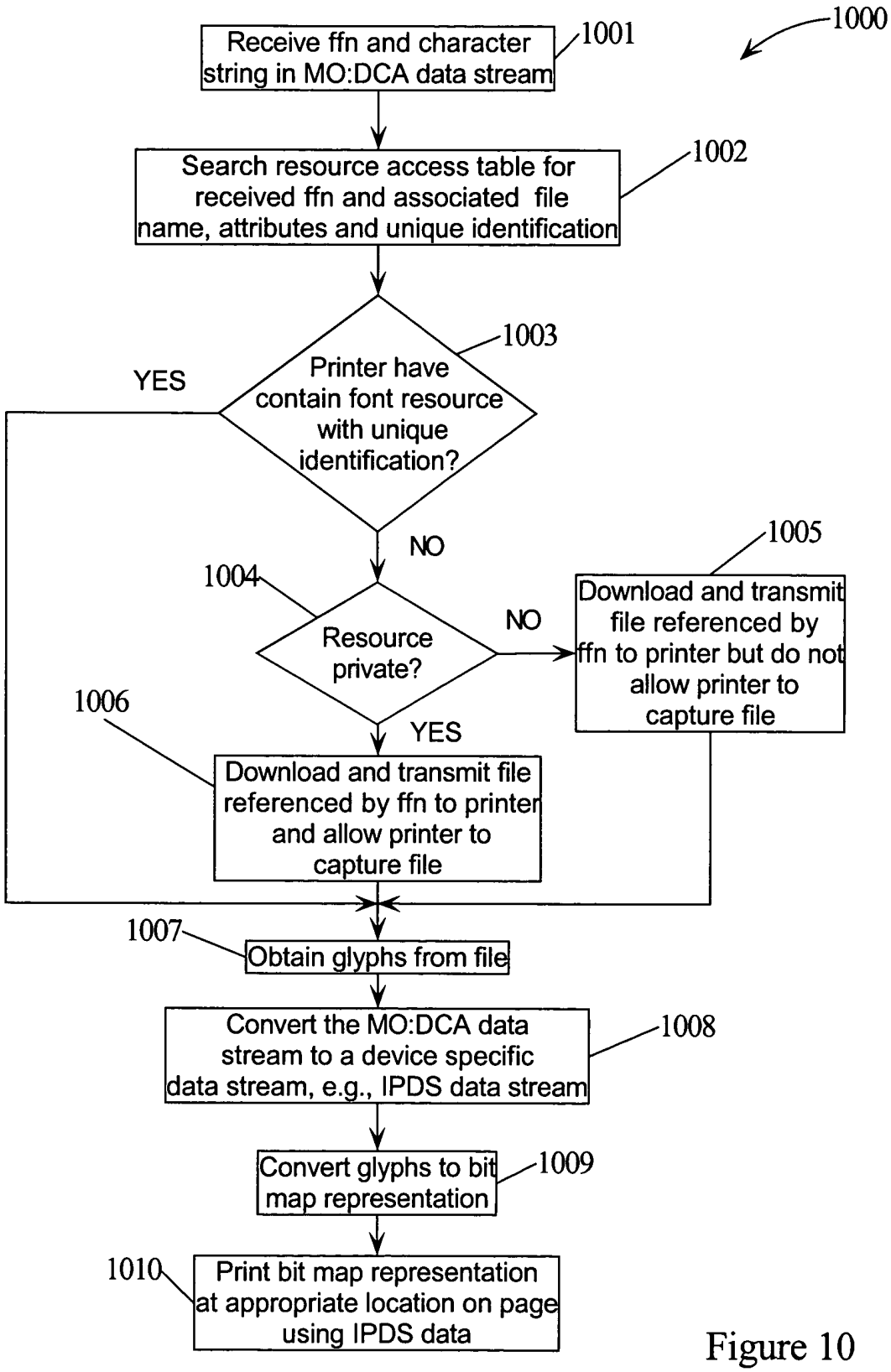
1000
Receive ffn and character string in MO:DCA data stream
1001
Search resource access table for received ffn and associated file name, attributes and unique identification
1002
Printer have contain font resource with unique identification?
1003
YES
NO
Resource private?
1004
NO
Download and transmit file referenced by ffn to printer but do not allow printer to capture file
1005
YES
Download and transmit file referenced by ffn to printer and allow printer to capture file
1006
Obtain glyphs from file
1007
Convert the MO:DCA data stream to a device specific data stream, e.g., IPDS data stream
1008
Convert glyphs to bit map representation
1009
Print bit map representation at appropriate location on page using IPDS data
1010

Figure 10